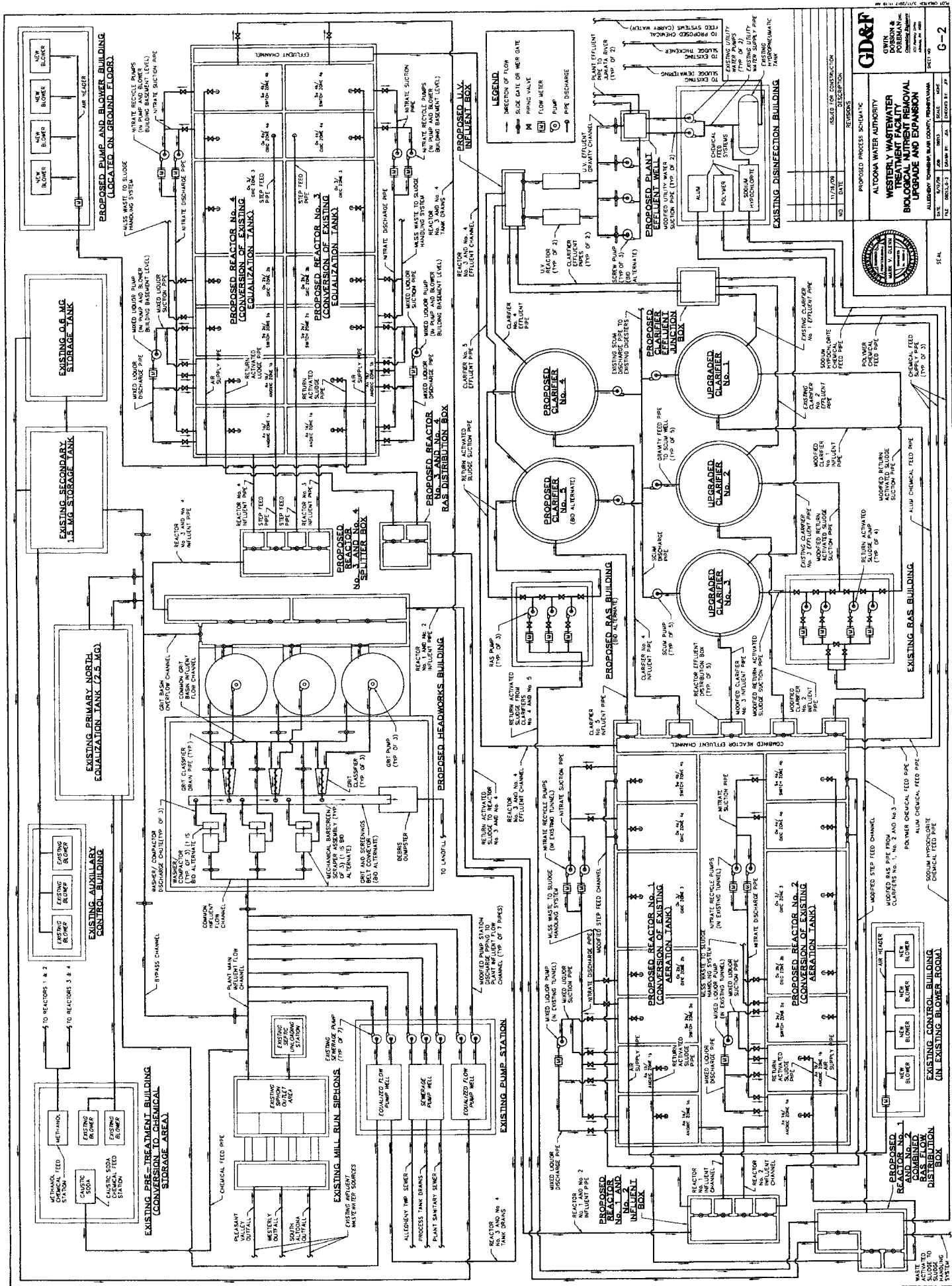


INDICATES LOCATION OF INFLUENT
AND EFFLUENT SAMPLING PORTS

ALTOONA CITY AUTHORITY

**PROCESS/HYDRAULIC FLOW SCHEMATIC
EASTERLY WASTEWATER
TREATMENT FACILITY**

LOGAN TOWNSHIP, BLAIR COUNTY, PA



PROPOSED PROCESS SCHEMATIC	
NO.	DATE
1	11/18/00
2	02/03/01
3	04/03/01
4	05/03/01
5	06/03/01
6	07/03/01
7	08/03/01
8	09/03/01
9	10/03/01
10	11/03/01
11	12/03/01
12	01/04/02
13	02/04/02
14	03/04/02
15	04/04/02
16	05/04/02
17	06/04/02
18	07/04/02
19	08/04/02
20	09/04/02
21	10/04/02
22	11/04/02
23	12/04/02
24	01/05/03
25	02/05/03
26	03/05/03
27	04/05/03
28	05/05/03
29	06/05/03
30	07/05/03
31	08/05/03
32	09/05/03
33	10/05/03
34	11/05/03
35	12/05/03
36	01/06/04
37	02/06/04
38	03/06/04
39	04/06/04
40	05/06/04
41	06/06/04
42	07/06/04
43	08/06/04
44	09/06/04
45	10/06/04
46	11/06/04
47	12/06/04
48	01/07/05
49	02/07/05
50	03/07/05
51	04/07/05
52	05/07/05
53	06/07/05
54	07/07/05
55	08/07/05
56	09/07/05
57	10/07/05
58	11/07/05
59	12/07/05
60	01/08/06
61	02/08/06
62	03/08/06
63	04/08/06
64	05/08/06
65	06/08/06
66	07/08/06
67	08/08/06
68	09/08/06
69	10/08/06
70	11/08/06
71	12/08/06
72	01/09/07
73	02/09/07
74	03/09/07
75	04/09/07
76	05/09/07
77	06/09/07
78	07/09/07
79	08/09/07
80	09/09/07
81	10/09/07
82	11/09/07
83	12/09/07
84	01/10/08
85	02/10/08
86	03/10/08
87	04/10/08
88	05/10/08
89	06/10/08
90	07/10/08
91	08/10/08
92	09/10/08
93	10/10/08
94	11/10/08
95	12/10/08
96	01/11/09
97	02/11/09
98	03/11/09
99	04/11/09
100	05/11/09

WESTERN Y WATER AUTHORITY
BIOLOGICAL NUTRIENT REMOVAL
UPGRADE AND EXPANSION
ALLEGANY TOWNSHIP, ALLEGANY COUNTY, PENNSYLVANIA

DATE: 02/03/01
SCALE: AS SHOWN
SHEET NO. G-2

PROPOSED PROCESS SCHEMATIC
WESTERN Y WATER AUTHORITY
BIOLOGICAL NUTRIENT REMOVAL
UPGRADE AND EXPANSION
ALLEGANY TOWNSHIP, ALLEGANY COUNTY, PENNSYLVANIA

DATE: 02/03/01
SCALE: AS SHOWN
SHEET NO. G-2

PROPOSED PROCESS SCHEMATIC
WESTERN Y WATER AUTHORITY
BIOLOGICAL NUTRIENT REMOVAL
UPGRADE AND EXPANSION
ALLEGANY TOWNSHIP, ALLEGANY COUNTY, PENNSYLVANIA

DATE: 02/03/01
SCALE: AS SHOWN
SHEET NO. G-2

PROPOSED PROCESS SCHEMATIC
WESTERN Y WATER AUTHORITY
BIOLOGICAL NUTRIENT REMOVAL
UPGRADE AND EXPANSION
ALLEGANY TOWNSHIP, ALLEGANY COUNTY, PENNSYLVANIA

DATE: 02/03/01
SCALE: AS SHOWN
SHEET NO. G-2

PROPOSED PROCESS SCHEMATIC
WESTERN Y WATER AUTHORITY
BIOLOGICAL NUTRIENT REMOVAL
UPGRADE AND EXPANSION
ALLEGANY TOWNSHIP, ALLEGANY COUNTY, PENNSYLVANIA

DATE: 02/03/01
SCALE: AS SHOWN
SHEET NO. G-2

PROPOSED PROCESS SCHEMATIC
WESTERN Y WATER AUTHORITY
BIOLOGICAL NUTRIENT REMOVAL
UPGRADE AND EXPANSION
ALLEGANY TOWNSHIP, ALLEGANY COUNTY, PENNSYLVANIA

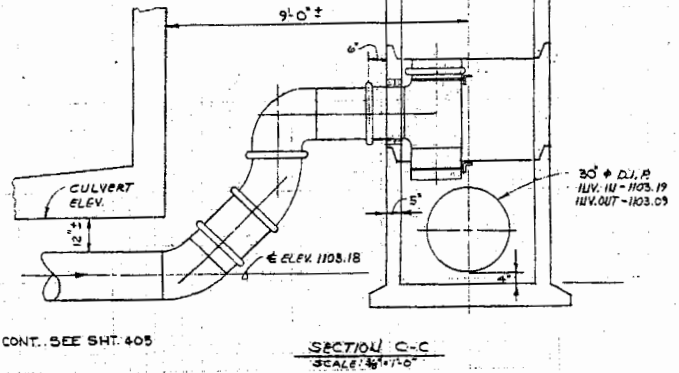
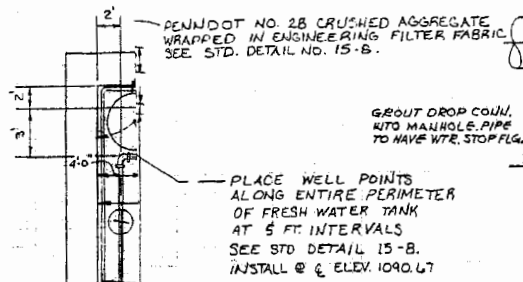
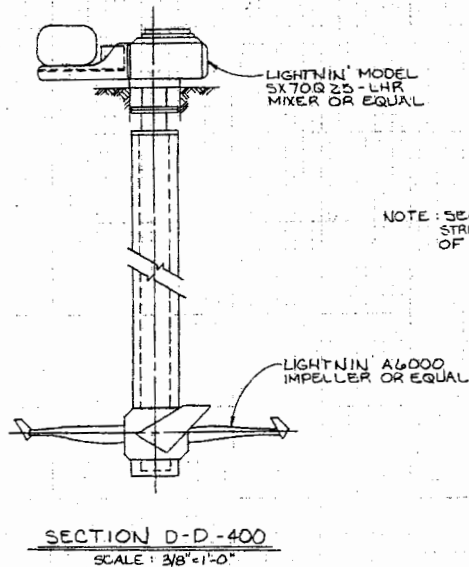
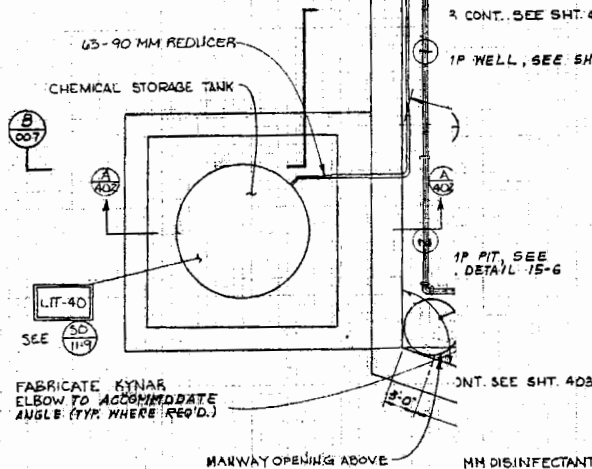
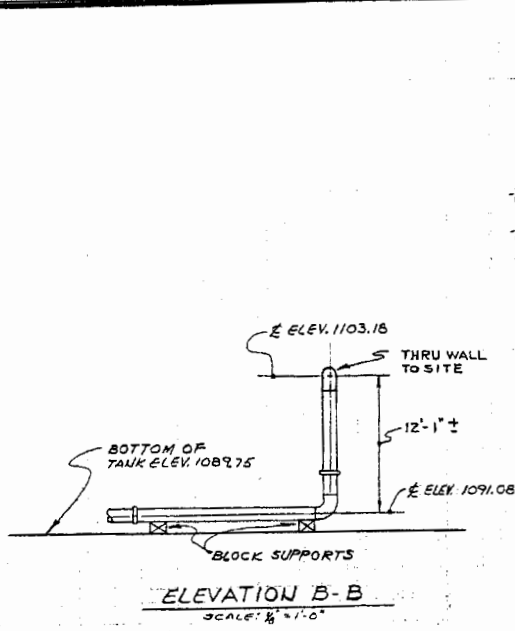
DATE: 02/03/01
SCALE: AS SHOWN
SHEET NO. G-2

PROPOSED PROCESS SCHEMATIC
WESTERN Y WATER AUTHORITY
BIOLOGICAL NUTRIENT REMOVAL
UPGRADE AND EXPANSION
ALLEGANY TOWNSHIP, ALLEGANY COUNTY, PENNSYLVANIA

DATE: 02/03/01
SCALE: AS SHOWN
SHEET NO. G-2

PROPOSED PROCESS SCHEMATIC
WESTERN Y WATER AUTHORITY
BIOLOGICAL NUTRIENT REMOVAL
UPGRADE AND EXPANSION
ALLEGANY TOWNSHIP, ALLEGANY COUNTY, PENNSYLVANIA

DATE: 02/03/01
SCALE: AS SHOWN
SHEET NO. G-2



NOTE: ALL PIPE AND SUPPORTS TO BE COATED WITH KOPPER'S SUPER SERVICE BLACK.

NOTES:

FLOODJET NOZZLES SHALL BE 1/4 K22 STAINLESS STEEL BY SPRAYING SYSTEMS CO. OR APPROVED EQUAL.

ATOMIZING NOZZLES SHALL BE 1/4 JN46 BY SPRAYING SYSTEMS CO. OR APPROVED EQUAL.

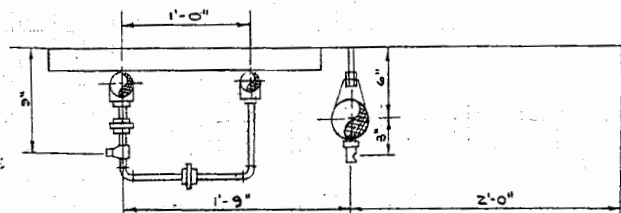
FOR NOZZLE DETAILS SEE (2) 405

ALL PIPE HANGERS, EQUIPMENT SUPPORTS, AND FASTENERS IN COMBINED SEWER OVERFLOW STORAGE TANKS TO BE KYNAR BY PENNALT CORP. OR EQUAL, OR FIBERGLAS REINFORCED PLASTIC.

PIPING IN THE STORAGE TANK TO BE OF 'KYNAR' BY PENNALT CORP. OR EQUAL. TRANSITION OF PIPING FROM ONE MATERIAL TO ANOTHER WILL BE MADE BY THE CONTRACTOR IN THE PUMP WELL UPON THE APPROVAL OF THE ENGINEER.

DISCHARGE

NOTE: SEE SHEET STRUCTURAL OF MIXER

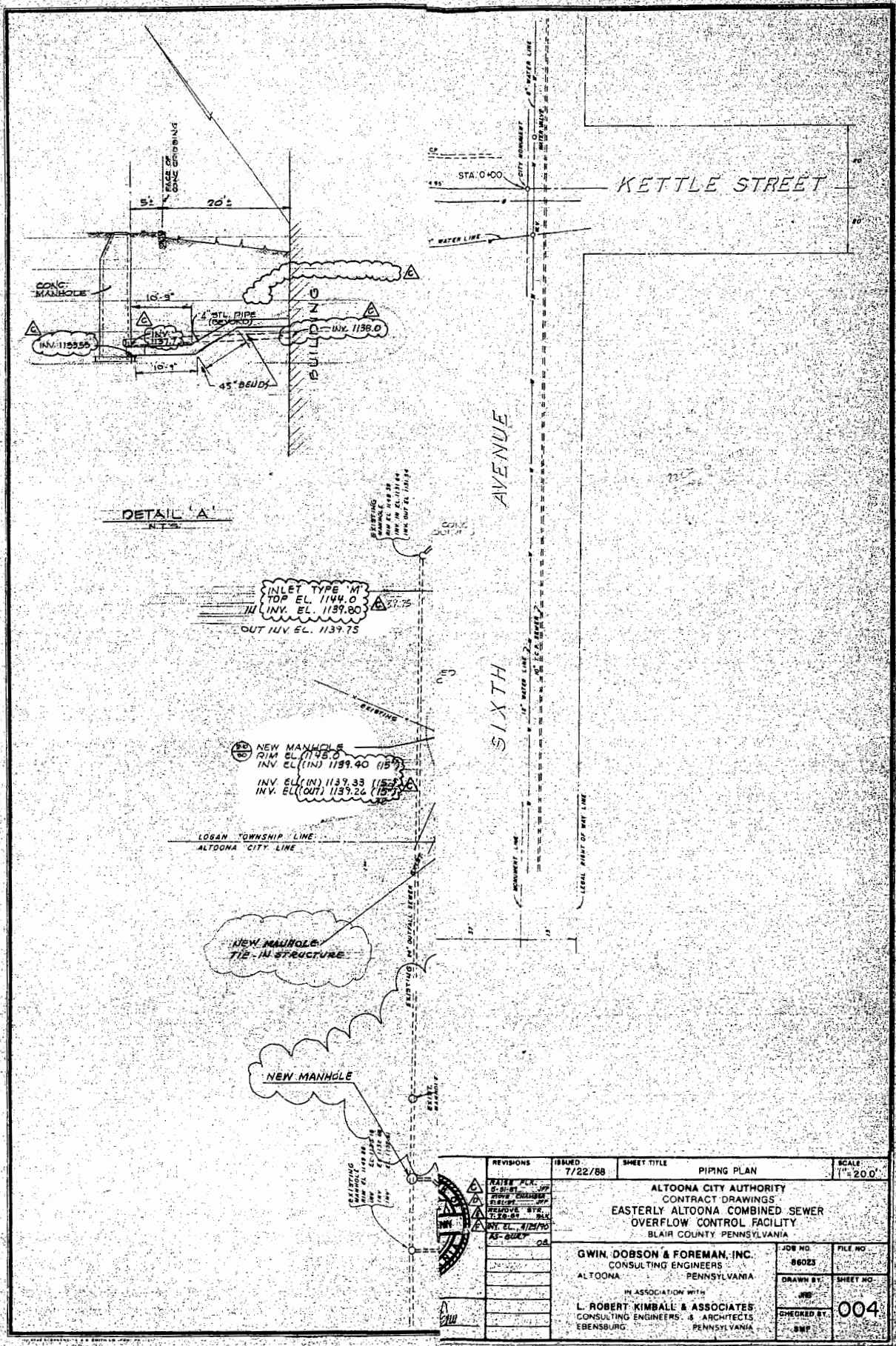


REVISIONS	ISSUED	COMBINED SEWER OVERFLOW FACILITY PLAN VIEW - MECHANICAL	SCALE 1/8" = 1'-0"
AD-BUILT	0.8	ALTOONA CITY AUTHORITY CONTRACT DRAWINGS WESTERLY COMBINED SEWER OVERFLOW CONTROL FACILITY BLAIR COUNTY PENNSYLVANIA	
		JOB 85046	GWIN, DOBSON & FOREMAN, INC. CONSULTING ENGINEERS ALTOONA - PENNSYLVANIA
		FILE	DRAWN BY: BLK/PP CHECKED: GSW
			SHEET NO. 400

APPENDIX 3

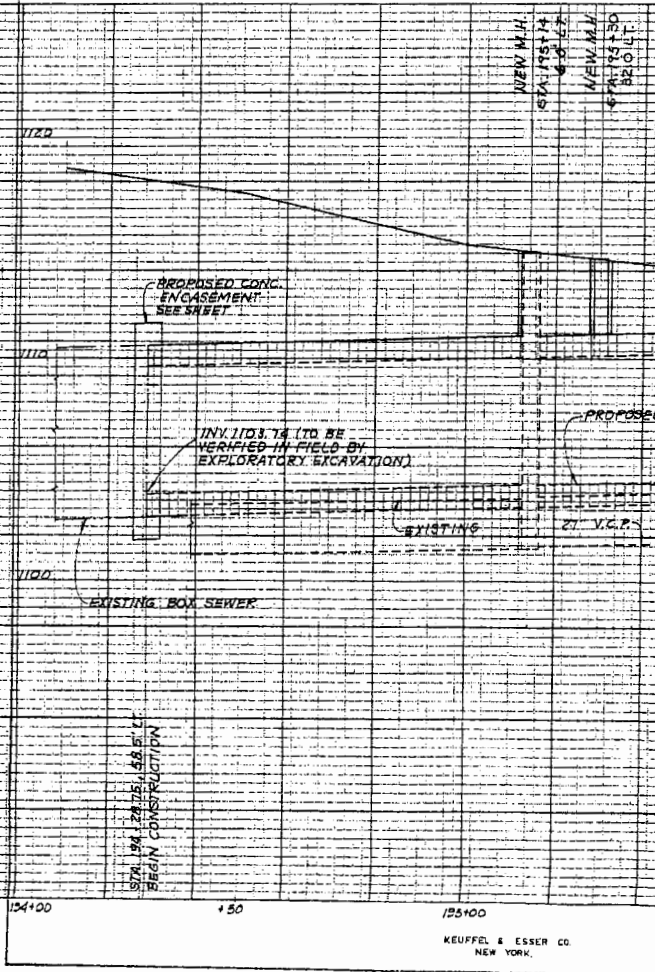
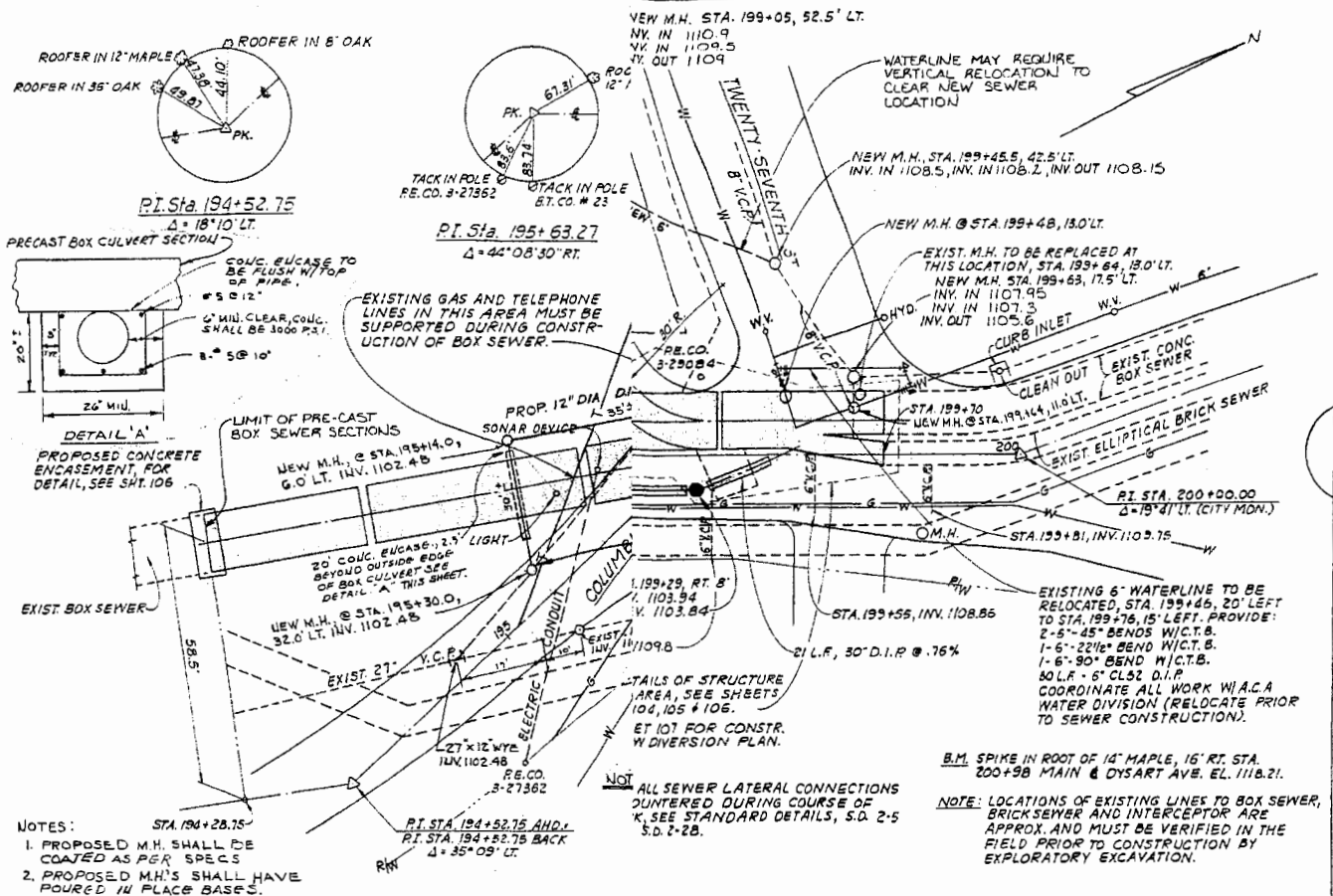
INTERCEPTOR SEWER SYSTEM MAP - ALTOONA CITY AUTHORITY

2-10, 2-17, 2-22, 2-25



REVISIONS	ISSUED	SHEET TITLE	SCALE
7/22/88	7/22/88	PIPING PLAN	1"=200'
<p>ALTOONA CITY AUTHORITY CONTRACT DRAWINGS EASTERLY ALTOONA COMBINED SEWER OVERFLOW CONTROL FACILITY BLAIR COUNTY PENNSYLVANIA</p>			
<p>GWIN, DOBSON & FOREMAN, INC. CONSULTING ENGINEERS ALTOONA PENNSYLVANIA</p>		JOB NO. 86023	FILE NO.
<p>IN ASSOCIATION WITH L. ROBERT KIMBALL & ASSOCIATES CONSULTING ENGINEERS & ARCHITECTS EBENSBURG PENNSYLVANIA</p>		DRAWN BY JWB	SHEET NO. 004
		CHECKED BY SWP	

S.D. 2-5, 2-27, 2-25, 2-31, 11-7



APPENDIX 4

NINE MINIMUM CONTROL PLAN

**ALTOONA CITY AUTHORITY
WASTEWATER DIVISION
BLAIR COUNTY, PA**

**NINE MINIMUM CONTROL PLAN (NMCP)
ALTOONA EASTERLY & WESTERLY WASTEWATER
CONVEYANCE AND TREATMENT SYSTEM**

SUBMITTED TO:

**PA DEPARTMENT OF ENVIRONMENTAL RESOURCES
WATER MANAGEMENT PROGRAM
SOUTHCENTRAL REGION
HARRISBURG, PA**

SEPTEMBER, 2003

TABLE OF CONTENTS
NINE MINIMUM CONTROL PLAN (NMCP)
ALTOONA EASTERLY AND WESTERLY WASTEWATER
CONVEYANCE AND TREATMENT SYSTEM
ALTOONA CITY AUTHORITY
BLAIR COUNTY, PA

	<u>DESCRIPTION</u>	<u>PAGE NO.</u>
I	INTRODUCTION	1
II	ALTOONA CITY AUTHORITY WASTEWATER CONVEYANCE/ TREATMENT SYSTEM	2
III	NINE MINIMUM CONTROL PLAN	4
	A. Proper Operation and Regular Maintenance Programs	4
	B. Maximum Use of the Collection System for Storage	5
	C. Review and Modification of Pretreatment Requirements	6
	D. Maximization of Flow to the POTW for Treatment	6
	E. Elimination of CSOs During Dry Weather	7
	F. Control of Solid and Floatable Materials	7
	G. Pollution Prevention Program	8
	H. Public Notification of Overflow Occurrences and their Impacts	8
	I. Monitoring to Characterize CSO Impacts and the Efficacy of Controls	9

**ALTOONA CITY AUTHORITY
NINE MINIMUM CONTROL PLAN
SEPTEMBER, 2003**

I. INTRODUCTION

A combined sewer system is a wastewater collection system owned by a municipality which conveys sanitary wastewaters (domestic, commercial and industrial wastewaters) and storm water through a single-pipe system to a Publicly Owned Treatment Works (POTW) treatment plant. A Combined Sewer Overflow (CSO) is the discharge from a combined sewer system before the POTW treatment plant. CSOs are point sources subject to NPDES permit requirements, including both technology-based and water quality-based requirements of the Clean Water Act. CSOs are not subject to secondary treatment requirements applicable to POTWs.

CSOs consists of mixtures of domestic sewage, industrial and commercial wastewaters, and storm water runoff. CSOs often contain high levels of suspended solids, pathogenic microorganisms, toxic pollutants, floatables, nutrients, oxygen-demanding organic compounds, oil and grease, and other pollutants.

The PA Department of Environmental Protection CSO Control Policy represents a comprehensive strategy to ensure that municipalities engage in a comprehensive and coordinated planning effort to achieve cost-effective CSO controls that ultimately meet appropriate health and environmental objectives. The Policy recognizes the site-specific nature of CSOs and their impacts and provides the necessary flexibility to tailor controls to local situations. Four key principles of the Policy to ensure that CSO controls are cost-effective and meet the objectives of the Clean Water Act are:

- A. providing clear levels of control that would be presumed to meet appropriate health and environmental objectives;
- B. providing sufficient flexibility to municipalities, especially financially disadvantaged communities, to consider the site-specific nature of CSOs and to determine the most cost-effective means of reducing pollutants and meeting Clean Water Act requirements;
- C. allowing a phased approach to implementation of CSO controls considering a community's financial capability; and
- D. review and revision, as appropriate, of water quality standards and their implementation procedures when developing CSO control plans to reflect the site-specific wet weather impacts of CSOs.

II. ALTOONA CITY AUTHORITY WASTEWATER CONVEYANCE/TREATMENT SYSTEM

In the 1890's **open** drainage ditches and springs located within the original Altoona city limits were replaced with brick egg-shaped sewers for collection of **both sewage and storm water** from the growing city population. **Known as "combined sewers" for these purposes, this disposal method was a common sewerage practice at the time.**

During wet weather events, the higher flow was diverted to the receiving stream. This allowed raw sewage to be discharged into Mill Run (**Westerly system**) and the Little Juniata River (**Easterly system**). Today these sewers collect runoff from city and township streets as well as industrial, commercial and residential **wastewater**.

During 1980, **Gwin, Dobson & Foreman, Inc.**, the consulting engineers for ACA conducted a "Combined Sewer Overflow (CSO) Analysis." As a result of this analysis, several conclusions were drawn concerning the existing CSO conditions.

The Authority was required by **the Clean Water Act and Subsequent EPA/DEP** a Consent Decree to implement a program to minimize wet weather overflows. In addition, **the order required expansion of** the Westerly and Easterly Wastewater Treatment Facility to provide a method of treating the "first-flush" from the combined sewer **system**. The Tuckahoe Park CSO Facility (Westerly) which holds 1.3 million gallons of wastewater, was completed and operational by June, 1991. The Bellwood Avenue CSO Facility (Easterly), which holds 1.6 million gallons of wastewater, was completed and operational by February 1992. Upon completion of the CSOs, the Authority helped reduce the BOD₅ loadings being discharge to the streams. Schematics of the treatment process and CSO control facilities can be found in the appendices.

A. Tuckahoe Park (**Westerly**) CSO Storage/Pumping System - This system was designed to capture the "first-flush" from combined sewer runoff and transfer it to the sewage plant for treatment. A schematic flow diagram can be found in **the** appendix. The principal operating units are as follows:

1. An in-ground covered concrete tank with 1.3 million gallons capacity, provided with bar screens and mixers.
2. A pumping station equipped with three (3) pumps with a total capacity of 1.5 **MGD**.
3. A CSO regulator valve with control features permitting complete shutoff of CSO to the interceptor
4. A control center for processing input from level sensors in the storage tank and the interceptor for controlling the regulator valve and pumps.

Also included in the construction of the Tuckahoe Park CSO storage/pumping system was **equalization/bypass storage** at the Westerly wastewater treatment facility. The principle operating **characteristics of this system** of this is as follows:

1. A 5.0 million gallon capacity concrete tank **divided by two (2) separate compartments**. Renovation and conversion of the existing aeration and final settling tanks for an additional 2.5 million gallons of storage. Total storage capacity at the facility is 7.5 million gallons **including course bubble diffused air system**.
2. Two (2) pump stations, one (1) for the new tank and one (1) for the converted tank. Total pumping capacity for these pumps is 6.5 MGD.

The treatment **plant, with a total hydraulic capacity of 25 MGD**, was also **modified for processing CSO wastewater**. This **hydraulic work** included the construction of new inverted siphons and a new influent **chamber**. Flow **through** the treatment process is by gravity except for the stored wastewater which is pumped to treatment from the **equalization/bypass storage**. Bar screens are utilized at the **Tuckahoe Park CSO control facility** to remove debris associated with "first flush **solids**."

B. Bellwood Avenue (**Easterly**) CSO Storage/Pumping Facility - This facility was designed to capture the "first flush" from the combined sewer runoff and transfer it to the sewage plant for treatment. A schematic flow diagram can be found in **the Appendix**. The principal operating units are as follows:

1. An in-ground covered concrete tank with 1.6 million gallons capacity, provided with bar screens and mixers.
2. A pumping station equipped with three (3) pumps with a total capacity of 1.5 MGD.
3. A CSO regulator valve with control features permitting complete shutoff of CSO to the interceptor
4. A control center for processing input from level sensors in the storage tank and the interceptor for controlling the regulator valve and pumps.
5. A control manhole at the intersection of the Fairview/Wehnwood/Juniata interceptor sewers to direct flow from the separate sewer area to the Juniata outfall **sewer** and isolate **the combined sewer area** flow in the Altoona Easterly outfall sewer.

Also included in the construction of the Bellwood Avenue CSO storage/pumping System was **equalization/bypass-storage** at the Easterly wastewater treatment facility. The principle operating of this is as follows:

1. A 1.0 million gallon capacity concrete tank **divided by two (2) separate compartments**. Renovation and conversion of the existing aeration and final settling tanks for an additional 2.0 million gallons of storage. This brought total storage capacity at the facility is 3.0 million gallons **including course bubble diffused air system**.

2. Two (2) pump stations, one (1) for the new tank and one (1) for the converted tank. Total pumping capacity for these pumps is 2.4 MGD.

The treatment **plant** was also **modified** for **processing of CSO wastewater**. Flow **through the** treatment process is by gravity except for the stored wastewater which is pumped to treatment from the **equalization/bypass storage** tanks. Bar screens are utilized at the **Bellwood Avenue** CSO control facility to remove debris associated with "first flush" **solids**.

III. NINE MINIMUM CONTROL PLAN

The Nine Minimum Control Plan (NMCP) for the Altoona City Authority will be designed to allow cost-effective facility **operation** or retrofitting of additional controls found to be necessary to meet water quality standards. This plan will also offer a realistic timetable for achieving cost-effective CSO control.

The minimum elements of the Altoona City Authority NMCP are described below.

A. Proper Operation and Regular Maintenance Programs

1. Purpose:

The CSO Operations and Maintenance (O&M) Program goal is to reduce the magnitude, duration, and frequency of CSOs in the collection system. The intent is to establish written procedures for CSO O&M management activities throughout the entire collection system and to incorporate procedures into **the existing** CSO Master Operation and Management Program.

2. Method:

As discussed in the previously **approved Nine Minimum Control Plan**, the Authority routinely performs operation and maintenance at each of the CSOs **and** inspections of the sewer system appurtenances. A foreman inspects each of the CSO daily during the week. During periods of heavy rainfall, **the wastewater operations director (or a designee)** checks the CSOs and diversion structures to ensure they are functioning properly. The pump stations **are checked each** Friday by the maintenance department. Employees of the sewer **maintenance crew** are put on-call for non-routine, emergency situations.

A detailed schedule exists for maintaining the collection system as well as the CSOs. The sewer **maintenance** has in place a yearly schedule for cleaning and maintaining of the system. An "Aqua Jet" **pressurized water** machine is used for **annual** cleaning of small diameter **lines** while larger **sewers** are cleaned by dragging **equipment**. The Authority cleans several known problem areas more than once a year, **or as required**. These areas **typically** have a history of grease build-up **or solids/silt deposition**.

The sewer maintenance crew also performs **routine** maintenance on each of the CSO. The CSO influent channels are cleaned of debris, **biannually**. To keep the equipment functioning properly, the plant maintenance mechanic **test** runs the bar screens, conveyor belts, and pumps as well as lubricates all moving parts. Records for these maintenance operations are kept by the **wastewater operations director (or a designee)** in a log book.

During periods of **rain fall** greater than **one-half inch intensity**, the Authority conducts **manhole** inspections to **insure proper CSO functioning and free flowing conditions**.

The Authority has **also begun an intensive sewer system televising effort** for certain areas of the system. The Authority has scheduled **the televising of lines according to** the 2002 Chapter 94 Report. The Authority **recently purchased a new camera and has a full time operator (with upgraded technology) for this purpose**. As part of the Chapter 94, the Authority intends to complete smoke testing of the entire system.

B. Maximum Use of the Collection System for Storage

1. Purpose:

The control is meant to enhance the available storage capacity of wet weather flows until the down stream sewer **system** and other facilities can **hydraulically convey and treat the flow**.

2. Method:

To properly maximize the use of the collection system **storage**, the Authority utilizes holding tanks at each of the CSO facilities. These holding tanks allow **combined sewer overflow** to be stored and then pumped back into the **conveyance** system following the storm **event**. The Bellwood Avenue (**Easterly**) CSO Facility has a design capacity of 1.6 million gallons while the Tuckahoe Park (**Westerly**) CSO Facility has a design capacity of 1.3 million gallons. Each treatment facility also utilizes equalization tanks for storage. All waters are treated prior to discharge **through the single stage nitrification/activated sludge process**.

The Authority also utilizes **an aggressive maintenance program** to maximize the use of the collection system. As previously discussed, regular inspections and cleaning of the collection system help maximize its use by removal of accumulated debris and solids. Regular inspections are performed as part of the CSO inspections to ensure that pumps and control valves are functioning properly.

The Authority has **also reduced infiltration and inflow into the collection system**. As discussed, **the Authority is doing ongoing smoke testing to find direct inflow sources and televising work to determine areas of excessive infiltration**. **Elimination of excessive inflow and infiltration will result in greater storage of CSO flow**.

C. Review and Modification of Pretreatment Requirements

1. Purpose:

The control is meant to assess the impact of the already regulated industrial users in terms of flow and pollutant loadings. Potentially significant, unregulated, industrial or commercial users must be identified.

2. Method:

At the time of the **previously approved** Nine Minimum Control **Plan**, the Authority proposed **permit** requirements for storm water **discharges** to the combined sewer system, **including pretreatment/retention**.

The Authority now requires storm water permits including pretreatment requirements. The Authority has identified several commercial and industrial customers **with stormwater permit needs**. Permits for storm water collection require **biannual** reporting. The permittee is required to conduct bimonthly inspections, dates of cleaning, use of detention facility, and statements of detention facility **maintenance**. These stipulations **assist** in reducing the amount of debris discharged to the combined sewer collection system.

The Altoona City Authority Wastewater System Regulations, prohibits the discharge of grease and oil discharges along with any waste considered detrimental to the sewerage system. The Authority reserves the right to fine those found in violation of any stipulations.

D. Maximization of Flow to the POTW for Treatment

1. Purpose:

This control is meant to implement practices, procedures and minor modifications to the CSO and **POTW** to enable as much wet weather flow as possible to reach the treatment facilities for proper treatment.

2. Method:

As discussed in the O&M procedures, the Authority **maintains** a regular maintenance schedule for the collection system. As a result, the Authority is able to maintain and maximize the capacity of the combined sewer system. Each of the treatment plants is able to utilize equalization tanks during periods of high flow. The use of equalization tanks allows for **hydraulic peak flow** reduction at the treatment plants and **virtually eliminates** the possibility of an overflow.

The Authority has also undertaken a project aimed at the removal of roof drains in areas which are not part of the combined sewer system. This will **assist** in reducing the amount of flow **and increasing** available capacity at each of the wastewater treatment plants.

E. Elimination of CSOs During Dry Weather

1. Purpose:

This control is meant to closely monitor overflows and implement all measures necessary to ensure there are no CSOs occurring during dry weather periods.

2. Method:

The Authority has controlled **the** occurrence of dry weather overflows by diverting any flushing of the water system and **structure fire water** within the combined sewer system area that could cause the interceptor to reach its maximum capacity. This flow is diverted to the holding tank of the **applicable CSO control facility**.

As discussed, the Authority **routinely** conducts inspection of **the CSO control facilities**, including the interceptor valve which could be closed in an emergency to allow for CSO holding tanks to be utilized. The Authority has **never** experienced any CSO **discharge** during dry weather.

F. Control of Solid and Floatable Materials

1. Purpose:

This control is meant to reduce, if not eliminate, solids and floatables using relatively simple methods. Solids consist of both visible and less visible particulate matter.

2. Method:

The Authority has a range of controls which are meant to reduce, if not eliminate, floatables which could be conveyed through the treatment system.

Measures have been taken to ensure that pretreatment and retention systems are installed to keep floatables from entering the combined sewer system. Permits are required for the discharge of storm water to the sewer system which include these stipulations.

The construction of the CSO control facility allows for much of the debris related to "first flush" to be collected prior to conveyance to the treatment facilities. Bar screens allow for a percentage of the floatables to be removed and deposited into a trash box for disposal at a landfill. These mechanisms are inspected regularly to keep the **floatable removal system** functioning properly.

The City of Altoona Public Works Department is responsible for the maintenance, repair and removal of debris from all **stormwater inlets** within the City. A routine is also followed to sweep areas of the city to help with grit removal. Street cleaning **equipment** keeps excess grit from entering the collection system.

Each of these measurements for the removal of floatables has been effective. At the time of the CSO inspections, the outfall for each of the CSOs did not show any signs of debris being discharged.

The Authority has **evaluated** the option of installing netting or screens at the end of culverts which will capture additional floatables that could be discharged after the holding tanks are completely filled. There were cases in which evidence of floatable clinging to trees and shrubs have been found.

G. Pollution Prevention Program

1. Purpose:

This control is meant to reduce, to the greatest extent possible, the amount of contaminants and other control vectors that may enter the sewer system.

2. Method:

As previously discussed the City of Altoona Public Works Department is responsible for the maintenance, repair and removal of debris from all **storm sewers and inlets** within the City. Street sweeping is completed on a regular basis by the City.

The Authority has also been active in informing the public by conducting public tours of the plants and sending out mass mailings **concerning** information on ways to prevent pollution. Separate mailings are sent to industrial and commercial users (such as restaurants) to inform them about procedures for the disposal of grease. Further elimination of pollutants was achieved as a result of requirements for retention and pretreatment of **site** storm water.

The Authority also has program for hazardous waste pick-up. This helps to prevent any of these from being conveyed through the system and discharged from a CSO.

H. Public Notification of Overflow Occurrences and their Impacts

1. Purpose:

This control is meant to develop a communication strategy to notify the public of hazards and impact of CSO discharges.

2. Method:

The Authority notifies the public of the location of the CSO by way of posting signs in the area of the CSO control facilities. Signs have been posted near the CSO at obvious locations to inform the public of hazards during wet weather flows. The signs read ***"Notice: Combined Sewer Overflow Discharge Point, No person should enter these waters during wet weather flow occurrences. Fecal coliform contaminated wastewater may cause flu-like symptoms in humans if exposed to this wastewater. If you have questions regarding the wastewater from the combined sewer overflow call the Altoona City Authority at 949-2222."***

Currently, the Authority publishes an article once per year on the occurrences of CSO during the previous year. There are plans to include information on-line to give the public more information about the CSOs. The public can learn more about the CSOs by accessing its website (www.altoonawater.com)

I. Monitoring to Characterize CSO Impacts and the Efficacy of Controls

1. Purpose:

This control involves visual inspections and other **simplified** methods to determine the occurrence and apparent impacts of CSOs.

2. Method:

Each of the CSO Facilities not only capture the first flush, they also monitor the daily flow of the interceptor sewer.

Following is a list of practices which are followed for the sampling of the CSO receiving streams:

- a. Sampling will occur only when the CSOs are bypassing.
- b. Samples will be taken above and below discharge points of the receiving streams.
- c. Sampling will be accomplished Monday thru Thursday. Sampling between the hour of 3:00 pm and dusk will be performed by the Pretreatment Coordinator.

Following the above practices allows for an evaluation of CSOs **impacts** on receiving streams. The Authority **also** completes Discharge Monitoring Reports (DMRs) of CSO **discharge events**.

As previously discussed, the Authority completes sampling **during** CSO discharge events. The results help to characterize the baseline CSO water quality and the pollution loadings resulting from the discharges. The Authority has been gathering this data as stipulated in **previously** approved LTCP.

Following is a list of sample locations:

- a. Above discharge point of receiving stream
- b. At the CSO discharge
- c. Several hundred feet below discharge

Samples are analyzed for the following:

- a. Ammonia Nitrogen
- b. BOD₅
- c. TSS
- d. pH
- e. Fecal Coliform

There are other parameters which can be analyzed. Additional pollutant parameters include total dissolved solids (TDS), metals, indicator bacteria and nutrients, **however, the** Authority does not currently test for any of these pollutants.